

Implementation of network-based higher education for the Chinese deaf people under the background of the Internet*

WANG Ai-guo

(Research Institute of Special Education, Changchun University, Changchun Jilin 130022, China)

Abstract: Now there are 17.7 million deaf people in China, but only four universities can provide them with higher education, which is far from enough. The implementation of network-based higher education for the deaf under the background of the Internet is an effective mean and objective needs for China's to carry out of the special higher education. This paper discusses the present situation of higher education for the deaf in China and the advantages of network-based higher education for the deaf. It relates the functions and also existing problems of current network-based higher education during the process of implementation. In order to solve the problems and further promote the development of Chinese higher education for the deaf people, this paper comes up with the planning of achieving the higher education for the deaf through the internet. The implementation of this project will definitely play a positive promoting effect on the integration and sharing of the higher education resource for Chinese deaf people nationwide.

Key words: deaf people; higher education; the Internet; China

1. The current situation of the development of Chinese higher education for the deaf people

The higher education for the deaf people is an important constituent part of the development of a nation's higher education. Higher education will enable the deaf people to obtain the requisite knowledge and skills for social survival and employment, just like people with normal hearing. The whole world is paying more and more attention to higher education for the deaf, and now in China, some universities have set up specialized fields for deaf people, such as the Special Education College of Changchun University, Engineering College for the Deaf of Tianjin University of Technology and Special Education College of Beijing Union University. They all adopt the policy of Exam Alone and Admit Alone (i.e. examinations and admission are arranged specially for the deaf), enrolling these outstanding students according to the scores on the recruitment examination. Exam Alone and Admit Alone policy enables the special education colleges and universities have the autonomy on enrollment. It also provides more opportunities for the deaf to enter schools. But at the same time, it brings some problems that are mainly about the divided test content and standards of different special education institute, which make the curriculum provision and standards difficult to be unified. The problems also include students' preparation for the exam repeatedly and coming back and forth in order to take the exam.

In all these colleges and universities, classes and lessons are set up independently for the deaf students. In

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WANG Ai-guo, associate researcher, Research Institute of Special Education, Changchun University; research field: management of special education.

2001, Tianjin University of Technology signed a project called PEN-International, entering the international higher education website for the deaf. The headquarters of this project is situated at the Engineering College for the Deaf of American University of Rochester. Afterwards, both Changchun University and Beijing Union University signed up for it. The operation of this project promoted the development of the nation's network-based higher education for the deaf. In the work statement of the Seventeenth National Congress of the Communist Party of China, it was pointed out that the education structure should be further optimized, the quality of the higher education should be enhanced, higher education itself should be paid attention to and distance learning and further studying should be developed. Hence, to further develop the network-based higher education for the deaf is an important content in conformance with the development and demands of Chinese society.

2. Characteristics of American network-based education for the deaf people

In America, there are 54 million handicapped people. To get knowledge from the internet is the most common way for the people, so it is for the handicapped. In America, 20% of the websites by the world's top 500 enterprise can be shared by the handicapped. The laws of the United States demand that the internet must provide the information needed by the handicapped.

In the database of network colleges in America, there stores all the information about students, which is used by the school managers. The information includes course schedule, the information of parents, school report card and so on. The websites designed for the parents enable them to refer to the report card and check if their children are absent. Parents are only provided with the information concerning their own children. More than one teacher can give help to one student at the same time. Online courses are accompanied by sign language and subtitles. These courses also provide sign language videos and animation sign language produced by animation technology. Some websites display not only simple sign language, but also with expressions and the shape of mouth.

Now the American network-based education has been an important way of providing higher education to the deaf people.

3. Characteristics of Chinese network-based education for the deaf people

Chinese network-based higher education started in 1998. Currently, it is mainly operated by some universities which are approved by the Ministry of Education through secondary network institute or by establishing companies in the mode of "college or university + enterprise". Now, 68 colleges and universities have set up online test pilot, but on the part of the higher education for the deaf, it only limits to the project of PEN-International.

3.1 Advantages of network-based education for the deaf people

Network-based education is not limited to time and space, and it can also make teaching and learning interact, so network-based education is the best form of open education and can provide the deaf people with better learning conditions, which can be concretely shown in following aspects:

In the information-based society, we need to face new knowledge and new skills which emerge ceaselessly. One-time education can no longer meet the lifelong social needs of an individual. Modern open distance education provides all learners with equal opportunity to learn, making the receiving of higher education no longer be the right only enjoyed by minority of the deaf people, but a basic requirement for individual survival. Education resources, targets of education, along with the space-time openness of education make people's lifelong learning

possible. This advantage can help to solve the bottleneck problem between elementary education, secondary education and higher education for the deaf people in China.

Modern distance education is multimedia technology and computer network technology centered, and it emphasizes on the learning style of independent and individual learning combining with interactive cooperative learning. Modern distance education is not limited to time and space, so educatees can get learning materials quickly and conveniently and can realize the share of college and university resources nationwide to the greatest degree. Although the internet penetration rate in China is still low, yet according to a rough estimate, the annual growth rate of Chinese cyber citizen has exceeded 50%. Therefore, network-based education for the deaf people will be the development tendency of Chinese higher education for the deaf.

3.2 The role played by network-based education for the deaf people

The development of network-based distance education, in one way, changed the traditional habit and way of learning, injecting fresh blood into education; in another, the ever-increasing educational needs built up better environment for network-based education.

Although in China, the education for the deaf people is now still based on traditional teaching method, the network-based education also enjoyed some progress. Network stations, by using the internet, broke the space limitation of traditional education, improving effectively the enrollment and development of colleges and universities. The Special Education College of Changchun University is one of the universities which applied network and video to multilingual education, small classes and situational teaching in the earliest time. Network-based education is no longer an asynchronous courseware, but teachers' real-time explanation. Students feel as if they are in the real classroom and the real-time communication provides students with better learning effect. At the meantime, with the development of technology, new forms of software platform reduces efficiently the hardware investment and the waste of education resources in colleges and universities, thus making other modes of continuation education and replace correspondence education with online video education possible. The same resources can offer opportunities for more deaf people, which objectively, provide important protection for the development of education.

3.3 The existing problems in the network-based education for the deaf people

In China, the network-based education for the deaf people started late and the development is relatively slow. So, there exists many problems demanding prompt solution.

- (1) There is no enough support from government.
- (2) The service link for students is still far from perfect in the network-based education in our country.
- (3) There is no division of duty, which restricts the quality promotion of network-based education and the expansion of its increasing value.
- (4) The cooperation between participants of Chinese network-based education is limited, which causes vast waste of resources and make it difficult to meet the needs of users.
- (5) The level of network-based educational resources is low and with inferiors professional knowledge. The level of media material storehouse, question bank and course storehouse are also relatively low. The way of lecturing is monotonous. Although there are many online courses, yet they are only the electronic document of teaching material, which cannot arouse the interest of learning of students.
- (6) The resources of courses are quite complete, but it lacks integrated planning. The popular courses offered by network colleges are excessive, but among them few can used to cultivate the practical ability of learners.
- (7) The function and quality of the broadband network need to be improved. In the present time, the

broadband internet in our country has some improvement, but parts of regional network broadband still cannot meet the whole demand of the transmission of high-flow online media courseware.

(8) The management during the teaching process is weak. Network-based education provides teaching service through remote control of internet. The management to learners should be reinforced, a complete set of monitoring system is needed and all links including enrollment, training, learning and completion of a course need to be monitored to assure the integral coordination and effective operation of all elements during the process of teaching.

Making use of the public network to implement the network-based higher education can well solve the problems above.

4. To make use of the internet to implement the network-based higher education for the deaf people

4.1 Strategies of public network being used in the network-based education for the deaf people

4.1.1 Investment of teaching facilities and equipment

Colleges and universities employ professional teachers according to the teaching plan to organize the courses. They also input a set of video teaching system and upgrade it gradually based on student enrollment. In order to guarantee the smooth operation, the teaching system, web server and terminal service, the correspondence broadband is in need. A set of educational administration systems should be input to achieve a paperless enrollment, tuition charge, teaching management, exam and thesis defense. Computers, PC cameras and headset are needed by teachers.

4.1.2 Target of network-based education and its teaching content

The target of teaching is the group of deaf people who want to complete middle-level and high-level education or those want to achieve secondary vocational education.

Education with record of formal schooling sets up courses based on the majors of the college or university. Education with no record of formal schooling advocates universal education of sign language and set up new courses to meet the market demands. Network colleges adopt a credit system and cyclic teaching system. These colleges enroll students four times a year, every time the enrollment brochures in accord with the set-up majors are handed out, two to four months beforehand in order to promote students' enrollment.

4.1.3 Make-up of the management team

Colleges and universities appoint personnel, such as the dean of the network college, the chief supervisor of teaching, technical controller, marketing director and the assistant of the chief supervisor of teaching. They draw on the managerial experience of the network colleges in developed countries to insure their teaching management.

4.2 Application and implementation

It has been a common phenomenon in regular higher education area for colleges and universities to install network colleges to undertake distance education, but as to the higher education for the deaf people, there are few such schools in operation at our homeland. So, in the realization of technology, we can draw on the common ways adopted by regular higher education. The concrete description are as follows.

Focusing on the development of campus network and education and research net, vigorously tapping and making use of the campus resources, popularizing internet knowledge to lay foundation for the modern distance education.

Installing special column for the deaf people through education websites, building up the sign language education basement gradually and training related sign language teachers in order to achieve better teaching effect.

Every learner, with a computer which has an access to internet, can achieve interactive visual communication, which makes communication more real and fast, realizing truly what is called zero distance. As long as with the help of ADSL and sole ownership of broadband, distance, time and faculty are no longer the factors which affect students' learning. Schools surrounded by no walls have limited student source.

Through the use of internet technology, long-distance students and teachers can communicate as if they were in classroom. With the help of video transmission system, students and teachers can see each other. Students are no longer limited by time and space, they can study through the internet at any time. Teachers can answer students' problems online synchronously. By means of the internet hyperlink, learners can receive the teaching information anytime. This can be achieved via wide area network, it can meet the need of class teaching activities and question answering, coaching, homework analysis and other teaching auxiliary activities.

In order to develop modern network-based education, large amount of capital is needed and we can not rely wholly on the national fund, but should be based on the principle of students, cooperate with companies and enterprises to run schools. The capital will be raised by means of state support, enterprise sponsorship and students tuition. Universities are the centers of intellectual resources and they possess strong technical force. Special education is the symbol of a nation's civilization, also a hot area supported by entrepreneurs, social charity organizations and scientific research organizations. It can gain not only technology, experience, capital, but also develop education software based on the practical needs of special education to meet the market demands. With the development of computer technology, network optimized broadband is increasing gradually and colleges and universities will invest more onto the development of distance education and campus network. Chinese modern network-based education will be an important constituent part of constructing social lifelong learning, and it has a bright prospect.

5. Conclusion and prospect

This paper introduces the current development situation of Chinese higher education for the deaf people and the advantages of the network-based education for the deaf. It points out the role played by network-based education for the deaf people in the course of practice and also the existing problems. In order to solve these problems and further promote the development of higher education for Chinese deaf people, this paper comes up with the planning of making use of the public network to realize the higher education for the deaf people. The implementation of this project will definitely have a positive effect on the integration and sharing of the higher education resources for those deaf people.

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